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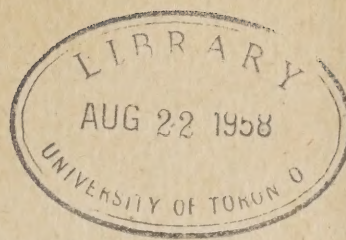
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appendix
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Ontario Hydro Electric Inquiry
Commission, 1922-1924

/B

Report [43]



INTERIM REPORT
of
THE HYDRO-ELECTRIC INQUIRY COMMISSION
in respect of
THE THUNDER BAY SYSTEM
constructed and operated by the
HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO.

MR. J. A. ROSS.

7 - In what manner and to what extent will the price of Niagara Power be adjusted, if at all, by the cost of the Queenston-Chippawa Development;

INTERIM REPORT.

8 - Any other power developments undertaken by the Hydro-Electric Power Commission, and generally all matters of expenditure and administration by the said Commission.

To His Honour, Henry Cockshutt, Esquire,

Lieutenant-Governor of the Province of Ontario.

connection with, or arising out of, the subjects thus indicated, as may be desirable, and to report the evidence and facts brought May it please your Honour:- along with such findings.

The Commissioners appointed under Letters Patent, bearing the date 20th day of April, 1922, respectfully beg to report as follows: Each should be brought to your attention without we were, by said Letters Patent, directed to inquire into and report upon: request from your Willing that we investigate

1 - All estimates submitted from time to time to the Hydro-Electric Power Commission of Ontario for the Queenston-Chippawa Power Development, and also all estimates for the said work submitted by the said Commission to the Government of Ontario;

2 - The reasons for increases from time to time in the estimates for the Queenston-Chippawa Power Development; on June 1st and June 15th respectively.

3 - The total cost, when completed, of the Queenston-Chippawa Power Development, we have also made a careful and extended inquiry
(a) With five units installed;
(b) With units installed to the full capacity of the Canal;

4 - The continuous output capacity of the Queenston-Chippawa Power Development, under the conditions mentioned in Clause 3.

5 - The methods of construction, supervision and management, which have been employed in the Queenston-Chippawa Power Development, and whether they can justifiably be continued for the economical completion of the work.

6 - (a) The quantity of water now available for use by means of the Queenston-Chippawa Canal;

(b) The power that can be developed thereby in continuous output at the Queenston Power Station.

1. THE REPORT

To His Honor, Henry Cockburn, Esquire,

Assistant-Governor of the Province of Ontario.

May it please your Honor:-

The Commission appointed under Letters Patent,

bearing the date 10th day of April, 1886, respectfully beg to

report as follows:

As soon as said Letters Patent, directed to inquire

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in 2023 with funding from

University of Toronto

into the power that can be developed thereby in
connection with the Ontario Power Station.

1 - The reasons for increasing from time to time in the
estimates for the Ontario-Chippewa Power Develop-
ment;

2 - The total cost, when completed, of the Ontario-
Chippewa Power Development.

(a) With five units installed;
(b) With three units installed in the full capacity
of the dam;

3 - The continuous output capacity of the Ontario-
Chippewa Power Development, under the conditions
mentioned in Clause 2.

4 - The methods of construction, supervision and
management, which have been employed in the
Ontario-Chippewa Power Development, and whether
they can justifiably be continued for the economical
completion of the work.

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(5) The power that can be developed thereby in
connection with the Ontario Power Station.

7 - In what manner and to what extent will the price of Niagara Power be affected, if at all, by the cost of the Queenston-Chippawa Development; as estimated by the H.E.P.C., is capable of developing 30,000 H.P. at 100 feet head factor.

8 - Any other power developments undertaken by the Hydro-Electric Power Commission, and generally all matters of expenditure and administration by the said Commission.

To make such suggestions and recommendations in connection with, or arising out of, the subjects thus indicated, as may be desirable, and to report the evidence and facts brought out by the investigation, along with such findings.

In the careful prosecution of our inquiry, there has come to our notice a condition, relative to the Thunder Bay System, which we feel should be brought to your attention without further delay. Our attention was definitely directed to this subject by a request from Fort William that we investigate the conditions relative to this System. In accordance with this request, your Commissioners made a personal inspection of the development on the Nipigon River, located at Cameron Falls, and held two public hearings, the one in Fort William and the other in Port Arthur, on June 14th and June 15th respectively.

In addition to the public hearings at Fort William and Port Arthur, we have also made a careful and extended inquiry into other conditions relative to the System. The knowledge of conditions that we have gained leads us to the definite belief that, aside from all consideration as to whether the policy of the Thunder Bay System, is considered desirable adopted by the H.E.P.C., in establishing a development at Cameron Falls, was justified or not, the present financial and business conditions of the System urgently require immediate attention.

Although the contracts came into force in March, 1913, when they were ratified by the Legislature, Port Arthur

7 - In what manner and to what extent will the price of Niagara Power be affected, if at all, by the cost of the Greenstein-Chippewa Development?

8 - Any other power development undertaken by the Hydro-Electric Power Commission, and generally all matters of expansion and administration by the said Commission.

To make such suggestions and recommendations in

connection with, or arising out of, the subjects thus indicated, as may be desirable, and to report the evidence and facts brought out by the investigation, along with such findings, _____

In the careful processing of my inquiry, there has

come to my notice a condition, relative to the Thunder Bay

System, which we feel should be brought to your attention

without further delay. Our attention was definitely directed

to this subject by a request from Fort William that we investigate

the conditions relative to this system. In accordance with

this request, your Commissioner made a personal inspection of

the development on the Wipigon River, located at Cameron Falls,

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other at Fort Arthur, on June 14th and June 15th respectively.

In addition to the public hearings at Fort William and

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into other conditions relative to the system. The knowledge of

conditions that we have gained leads us to the definite belief

that, aside from all consideration as to whether the policy

adopted by the H.E.P.C., in establishing a development at

Cameron Falls, was justified or not, the present financial and

business condition of the system urgently requires immediate

attention.

cf Antonio
 The plant, when finally completed at Cameron Falls, *herein after called the Cameron*
 as estimated by the H.E.P.C., *will be* is capable of developing 50,000 *24 hr.*
 H.P. at ~~100 per cent~~ load factor and 100,000 H.P. at 50 per cent
 load factor. *approximately 8000 to* Of this amount ~~probably less than~~ 10,000 H.P. is
 at present being used. The money at present invested in the
 Thunder Bay System is approximately \$6,500,000. and the final
 cost will ~~probably exceed~~ \$10,000,000. The plant has been in
 operation since December, 1920. *from which* It is quite apparent, ~~from~~
~~observance of these details,~~ that the System is operating on a basis
 that is far from ~~economical~~ *satisfactory* and that interest charges, operating
 costs, sinking fund allowances and so forth are producing a burden
 out of all proportion to the advantages gained.

We fully appreciate that a full and comprehensive
 report on the whole situation is necessary; at the same time ~~is~~
 we feel that present unsatisfactory conditions might, in part, be
 met if the power, possible of development, were sold. Thus the
 problem appears to us to be a straight business proposition of the
 marketing the power available and thus reducing the carrying charges
 that are, at the present time, pyramidding at an alarming rate.

sinking fund and so forth, bringing the cost of power to
HISTORICAL.
 Fort Arthur up to \$19.00 or \$20.00 per Horse Power. In
 In order to more properly understand the situation, a
 Fort William the price of power was \$20.00 per Horse Power at
 short review of the historical facts, leading to the present status
 of the Thunder Bay System, is considered desirable:

when the proposal of an agreement with the Hydro-
 In 1917 the Cities of Port Arthur and Fort William entered
 Electric Power Commission was before the ratepayers of the two
 into a contract with the Hydro-Electric Power Commission for a supply
 Cities. In January, 1917, it was represented by the officials of
 of power. Although the contracts came into force in March,
 the Commission that the prices of power under the new proposal
 1918, when they were ratified by the Legislature, Port Arthur
 would be substantially lower than they had been under the old

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The plans, when finally completed at Cameron Falls, as estimated by the E.R.P.C., its capacity of developing 50,000 H.P. at 100 per cent load factor and 100,000 H.P. at 50 per cent load factor. At this amount, probably more than 10,000 H.P. is at present being used. The money at present invested in the Thunder Bay System is approximately \$6,000,000, and the final cost will probably exceed \$10,000,000. The plans have been in operation since November, 1928. It is quite apparent, from observation of these facilities, that the system is operating on a basis that is far from economical and that interest charges, operating costs, sinking fund allowances and so forth are producing a burden out of all proportion to the advantages gained.

It fully appreciates that a full and comprehensive report on the whole situation is necessary; at the same time we feel that present unsatisfactory conditions might, in part, be met if the power, capable of development, were sold. Then the problem appears to us to be a straight business proposition of marketing the power available and thus reducing the carrying charges that are, at the present time, overwhelming at an alarming rate.

HISTORICAL

In order to more properly understand the situation, a short review of the historical facts, leading to the present status of the Thunder Bay System, is considered desirable:

In 1917 the Office of Port Arthur and Fort William entered into a contract with the Hydro-Electric Power Commission for a supply of power. Although the contract came into force in March, 1918, when they were ratified by the legislature, Port Arthur

did not begin to take power until December, 1920, and Fort William will not take power until August, 1926. The contracts authorized the Commission to construct or purchase generating stations, transmission lines and any other works required to supply the power, and under the Power Commission Act the Municipalities became liable to repay to the Commission the full cost of the works.

Both Cities had previously been supplied with power generated at Kakabeka Falls, on the Kaministiquia River, west of Fort William, by the Kaministiquia Power Company. The City of Fort William has a contract direct with the Kaministiquia Power Company which does not expire until August, 1926. The City of Port Arthur had a ten-year contract expiring in April, 1920, through the Hydro-Electric Power Commission, which bought the power from the Kaministiquia Power Company and sold it to Port Arthur.

The price paid by Port Arthur to the H.E.P.C., for the power, was \$14.00 per H. P., at 22,000 volts, plus a charge made by the H.E.P.C. in respect of operating costs, interest charges, sinking fund and so forth, bringing the cost of power to Port Arthur up to \$19.00 or \$20.00 per Horse Power. In Fort William the price of power was \$20.00 per Horse Power at 2200 volts.

When the proposal of an agreement with the Hydro-Electric Power Commission was before the ratepayers of the two Cities, in January, 1917, it was represented by the officials of the Commission that the prices of power under the new proposal would be substantially lower than they had been under the old law. It was before the electors when the Hydro-Electric

did not begin to take power until December, 1920, and 1921

William will not take power until August, 1922. The

contract authorized the Commission to construct or

purchase generating stations, transmission lines and any

other works required to supply the power, and under the

power Commission for the transmission lines liable to

repay to the Commission the full cost of the works.

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generated at Kakabeka Falls, on the Kaministiquia River.

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The City of Fort William has a contract direct with

the Kaministiquia Power Company which does not expire until

August, 1922. The City of Fort Arthur had a ten-year

contract expiring in April, 1920. Through the Hydro-Electric

Power Commission, which bought the power from the Kaministiquia

Power Company and sold it to Fort Arthur.

The price paid by Fort Arthur to the H.E.P.C., for the

power, was \$14.00 per K. P., or \$2,000 value, plus a charge made

by the H.E.P.C. in respect of operating costs, interest charges,

slaking fund and so forth, bringing the cost of power to

Fort Arthur up to \$19.00 or \$20.00 per Horse Power. In

Fort William the price of power was \$20.00 per Horse Power or

\$200 value.

When the proposal of an agreement with the Hydro-

Electric Power Commission was before the members of the two

Cities, in January, 1914, it was represented by the officials of

the Commission that the prices of power under the new proposal

would be substantially lower than they had been under the old

arrangements with the Kaministiquia Power Company. This expectation and the anticipation of demands for power, larger than the Company was able to supply, were the reasons which apparently induced the two Cities to enter into the contracts with the Commission. The alternative was to allow the Kaministiquia Power Company to undertake a further development on the Kaministiquia River, which could have been done at Silver Falls or Dog Lake, 15 miles above the Company's present plant.

Instead of allowing the Kaministiquia Company to develop this power, the proposal was that the Hydro-Electric Power Commission should undertake the development; and it was this proposal that was the basis of the agreement between the Cities and the Commission, though the terms of the agreement were broad enough to authorize a development elsewhere. It would appear, however, that no other plan was seriously contemplated by the people of Port Arthur and Fort William when the vote was taken, than the Dog Lake development. The estimated prices of power, as submitted in August, 1916, were based on an estimated capital expenditure of \$3,000,000.

Acting under the authority conferred by the agreements, the Commission, in 1918, undertook the construction of a generating plant at Cameron's Falls, on the Ripigon River, 15 miles north-east of Port Arthur. It is contended, more particularly on behalf of Fort William, that, as the estimates furnished to the Cities were calculated solely with reference to the development at Dog Lake, and as the Dog Lake undertaking alone was before the electors when the By-law was voted

on, the responsibility for the change in location rests with the H.E.P.C. and P.P. and will, according to the testimony,

Actual construction work on the development was commenced in December, 1916, the plans decided upon entertaining the construction of dams to give a 78 foot head of water to serve a completed installation of six generator sets, each with a rated capacity of 12,500 H.P. The work was pushed forward during 1919 and 1920, which of course was the period of very considerable rise in the cost of labor and particularly in the cost of electrical equipment, building materials and construction supplies in general.

During the construction of the development plant a wooden pole transmission line of 110,000 volt capacity, over seventy miles long, was also built, terminating at the easterly limit of Port Arthur. At the Port Arthur end of the line was erected a very temporary wooden and stucco transformer station.

By December, 1920, the dams for the whole development were practically completed and two generator sets had been installed and on December 20th power was first delivered to Port Arthur.

FINANCIAL.

According to the report of the Auditors, the total net capital investment, as of 31st October, 1921, represented in the Thunder Bay System, was \$6,543,505.57. From this must be deducted \$66,991.74, the amount standing to the credit of the System on account of sinking fund, etc., set up in respect of the original Port Arthur System. The

one the responsibility for the change in location was with

the

actual construction work on the development was commenced

in January 1951. The first phase of the development was the

erection of dams to give a 75 foot head of water to serve

a complete installation of six generators each, each with

a rated capacity of 10,000 kw. The first two generators

during 1951 and 1952, which at that time was the period of very

noticeable rise in the cost of labor and particularly in

the cost of electrical equipment, building materials and

construction supplies in general.

During the construction of the development there was a

large increase in the cost of construction materials, the

quantity used being large, was also built, commencing at the

beginning of 1953. At the end of 1953 the cost of

the first two generators was about 10% higher than the cost

of the first two generators.

In January 1954, the cost of the first two generators

was about 10% higher than the cost of the first two

generators and on January 1955 power was first delivered to the

city.

CONCLUSIONS

According to the report of the engineers, the cost of

the development was about 10% higher than the cost of the

first two generators and about 10% higher than the cost of

the first two generators and about 10% higher than the cost of

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completion of the works in connection with the present two units of 12,500 H.P. each, will, according to the estimates, require the expenditure of another \$753,948.00 during the present year. The present cost and estimated cost to complete the two-unit system will, therefore, amount to over \$7,200,000.

The Revenue credited to the Thunder Bay System for the year ending 31st October, 1921, was \$217,730.98. This amount consisted of \$178,783.39, charged against the City of Port Arthur for the sale of power at \$15.00 per H. P., and a balance of \$42,037.57, which had been charged against the Nipigon Fibre & Paper Company, for power sold under a contract for the security of which the Commission holds a bond for \$40,000. The actual amount paid by Port Arthur for power under the original Port Arthur System was \$148,032.08, which was based on a price of \$20.00 per H.P., the monthly statements rendered to the City having been made out at this price. The final adjusted bill for the year, however, was made out at the rate of \$23.00 per H.P., and, instead of requiring the City to pay this amount, the H.E.P.C. appropriated \$29,721.31 of funds standing to the credit of the City of Port Arthur in respect of over payments for power under the original Port Arthur System. The City of Port Arthur has protested strongly against this course, urging that the money appropriated by the Commission was required by the City to apply on the construction of a new transformer system for the City's distribution plant. It is understood that the matter is still the subject of negotiation.

The appropriation of the \$29,721.31 still left a deficit

The appropriation of the \$23,751.51 will for a building for the city of New York is hereby authorized.

For the year ending 31st October, 1921, the Commission

of \$18,708.88, charged against the City of Port Arthur which will, in the ordinary course, be added, with interest, to the charges for the current year.

Against the present and any future deficit, the Commission holds as security funds of the original Port Arthur System, as follows:-

Reserve for Renewals (Sch.39).....	\$41,302.22
Sinking Fund and Interest (Sch.38).....	21,264.86
Reserve for Contingencies (Sch.40).....	<u>4,424.66</u>
Total power "set aside" that is to say	\$66,991.74

The money invested in the Nipigon System was borrowed by the Province at various rates averaging 6.2%. The accountants of the Commission, last year, computed the interest rate, both on construction and operation in the Nipigon District at 5% and carried this rate back to cover all advances since the construction of the Nipigon Plant was begun. The effect of this was to give the Commission a credit of \$77,347.45 (less a small sum of \$5,562.04 due to a clerical error, which was held in suspense to be deducted during the current year). The full amount of interest for the year ending 31st October, 1921, at the rates paid by the Government would have been \$316,081.22. It will be seen, therefore, that unless the reduction of the rate to 5% was justified or in other words, unless the Province is willing to assume the \$77,347.45, the net revenue

of \$10,700.85, charged against the City of New York at that

time, was in the amount of \$10,700.85, as shown by the

statement of the City of New York at that time.

Against the amount of \$10,700.85, the

Commission holds an security fund of the original City of New York

of \$10,700.85.

Security for the City of New York at that time

Security fund and interest (New York) \$10,700.85

Reserve for contingencies (New York) \$10,700.85

\$21,401.70

The money invested in the City of New York was

invested in the City of New York at that time

The amount of the investment, less the amount of the

interest rate, both on construction and operation in the

City of New York at that time and carried this rate back to cover

all expenses since the completion of the City of New York

was begun. The effect of this was to give the Commission

a credit of \$7,347.45 (less a small sum of \$1,000.00 due

to a clerical error, which was paid in response to be

the amount of the City of New York at that time

interest for the year ending 31st October, 1911, at the

rate paid by the Government would have been \$21,401.70.

It will be seen, therefore, that unless the resolution of

the rate to 5% was cancelled or in other words, unless the

Province is willing to assume the \$7,347.45, the net revenue

for the year ending 31st October, 1921, was \$77,800.36 less than the interest charges alone, exclusive of a further \$20,459.90 interest, added to capital account without any provision for operating costs, sinking funds, reserve for renewals or reserve for contingencies. Even on the basis of the 6% rate, the total revenue would have fallen \$332.91 short of meeting interest charges.

Under the terms of their agreement with the Commission the municipalities associated in the Thunder Bay System are under obligation to pay for the cost of the System by buying their power "at cost" that is to say with a provision for sinking fund which would retire the capital cost in forty years. To maintain the System on a sound financial basis, there must be charged in the price of power not only the cost of operation, and interest on the investment, but charges for sinking fund, a reserve for renewals and a reserve for contingencies.

The total cost of maintaining a System must provide, as already illustrated, sufficient funds to take care of interest on capital, sinking fund, reserve for renewals, reserve for contingencies and operating costs. The sum total of these charges may, for estimating purposes, be taken as ranging from 10 to 12 per cent, considering the money involved as worth 6.2 per cent. Since the development as at present constructed will represent an investment of approximately

The first thing that occurred to me when I saw the

first of the series of photographs was that they

were very different from the ones I had seen

before. They were not the same as the ones I

had seen before. They were not the same as the ones I

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\$7,200,000. at the end of this year, and taking 11% as a fair average on which to compute the yearly charges, we find that the annual charge for an installed capacity of 25,000 h.p. is \$792,000.

According to the Auditor's Report, the load on the System is only 11,000 h.p. Thus, by simple computation, it will be seen that, to deliver power at cost under these conditions would necessitate a charge of about \$72.00 per h.p.

It is not, of course, possible to sell the total installed capacity of any plant and at the same time be able to guarantee a continuity of service. A certain reserve in generating equipment must be held for breakdowns, etc. Therefore, since only two units are ready for operation at this plant, one unit, except at peak load periods, should be held as a standby. Allowing for the second unit operating as a peak load factor, and figuring on a certain diversity in the sale of power, it is probable that the equipment as now installed could properly deliver 15,000 h.p. Therefore, it will be seen that this amount would have to bring nearly \$53.00 per h.p. to permit of a sale of power at cost.

Due to the natural resources of the Thunder Bay Territory the largest industry of the country is the manufacture of pulp and paper and it is to this industry that we must look for the consumption of the large blocks of power. The cost of power forms a very considerable item in the cost of ground pulp wood and it seems to be well established that

\$7,200,000 at the end of this year, and ending 1913 at a
fair average on which to compute the yearly charges, we find

1913 at \$720,000.

According to the Engineer's Report, the load on the

system is only 11,000 h.p. Thus, by simple calculation, it

will be seen that, to deliver power at cost under these con-

ditions would necessitate a charge of about \$12.00 per h.p.

It is not, of course, possible to sell the total

installed capacity of any plant and at the same time be able

to purchase a quantity of service. A certain reserve in

generating equipment must be held for breakdowns, etc. There-

fore, since only two units are ready for operation at any

plant, one unit, except at peak load periods, would be held

as a standby. Allowing for the annual maintenance cost as a

peak load factor, and taking on a certain diversity in the

use of power, it is probable that the equipment to now

be installed will be sufficient to meet the demand, it

will be seen that this amount would have to be paid yearly

for the use of power at a cost of about 12 cents per unit.

Due to the natural resources of the Tennessee Ry.

Company and the fact that the power is not sold

directly to the public and is in the hands of the

public, the cost of power is not as high as it would be

if the power were sold directly to the public.

The cost of power forms a very considerable item in the cost

of ground only used and it seems to be well established that

that the industry cannot bear a charge anything like the cost figure that should at present govern the output from the Cameron Falls Plant.

In the meantime charges of \$720,000. per year, or more, are running against the system, while the income to offset these charges is only in the neighbourhood of \$218,000. per year. The actual income for the year ending 31st October, 1931, was only \$146,032.08, because the \$42,037.57 was not collected from the Hixson Fibre & Paper Co. and \$27,721.31 was appropriated out of the sinking funds, etc., standing to the credit of Port Arthur.

On the most favorable method of calculation, the system is running behind at the rate of nearly \$1,400. per day or about \$42,000. per month.

The problem, clearly, is not merely to find customers for the power which the plant is at present capable of producing - for that would mean power at prohibitive prices - but to find customers to justify a further installation at Hixson. The dam and other permanent works were so constructed as to provide for four other generating units of 12,500 h.p. each, in addition to the present two units. According to the estimates of the engineers an expenditure of \$1,719,000. would be sufficient to install two more units. An additional expenditure of \$1,869,000. would install two further units, bringing the total installed capacity up to 75,000 h.p. allowing for a safety factor and making allowance for the fact that the majority of the energy used will be twenty-four horse power, it should, therefore, be possible to produce 60,000 saleable h.p. on a capital expenditure of approximately \$10,800,000.

Reducing the estimated annual charges to 10% on the capital investment on account of the increased economy of operating a larger plant, it would bring the price of power to about \$18.00 per h.p. The whole survey of the power necessities

How shall this condition, or something like it be attained? Can any substantial increase in the load be secured by charging on the basis of the present cost, or even the arbitrary rate of \$25.00 proposed? If the power is sold at \$25.00 per h.p. or less, how shall the deficits be met? Shall part of the capital cost be written off; or shall the deficit be met by the Province at large; or shall the Commission meet it out of the general funds of all the municipalities for which it acts; or shall it be carried by the Province or by the other municipalities in a suspense account charged against the municipalities in the Thunder Bay System? These are the problems with which your Commission have been faced. The Cities of Port Arthur and Fort William are vitally interested in the problems not only as affecting the price of power and the prospects of attracting industries, but on account of the responsibility assumed for the capital cost of construction. The brunt falls, in the first instance on the City of Port Arthur whose contract with the H.E.P.C. is already in operation. The contract of the City of Fort William does not come into operation until August, 1926. The City of Fort William is, in the meantime, purchasing its power from the Kaministiquia Power Company, at a price in the neighbourhood of \$20.00 per h.p. at 2200 volts.

Respectfully submitted, your obedient servant, J. H. H. H. H.

PROSPECTIVE POWER USERS

Advised. It is understood that down 25,000 to 30,000 h.p. will be required for the purpose of this survey. In review of the conditions, the question immediately arises as to what were the prospects for the sale of power which might have been in progress, from time to time, caused the N.E.P.C. to undertake a development involving such a large expenditure. Was their survey of the power necessities of the district sufficiently assuring to warrant their subsequent action or could the then existing development at Iakaboka Falls, if allowed to extend its development, have more economically taken care of the requirements, or should the N.E.P.C. have made a development at Dog Lake, or at some other place, that would not have been decided upon? It is a question which your Government have involved so large an outlay and yet met the needs of the district, with a reasonable surplus for the future?

These considerations must necessarily be dealt with but they involve expert engineering and other investigation that has not been possible up to the present time. Furthermore, the findings of such an extended inquiry cannot materially affect the financial and business side of the question. Money has been spent, obligations entered into and the need at the moment is to proceed immediately with the construction of the plant and have market the power available and reduce the deficits as much as possible.

The Government of a contract with the Great Lakes and Cities have interested themselves in exploiting every prospect that has offered of procuring the establishment of industries which would purchase power.

Of the various prospective users of power, as reported by the N.E.P.C., only one whose requirements can be considered as large has as yet definitely indicated his requirements and shown a bona fide intention of entering into a contract. This party, known as the Great Lakes Paper Company, has acquired leasehold rights of the Black Sturgeon and Pie River pulpwood

EXHIBIT 100-1000

In review of the conditions, the question immediately arises as to what were the prospects for the sale of power which caused the H.A.P.C. to undertake a development involving such a large expenditure. The chief survey of the power resources of the district, conducted by the H.A.P.C. in 1934, indicated that the district was rich in water power, and that the development of such power would be a profitable investment. The H.A.P.C. was organized in 1934, and its first action was to conduct a survey of the water resources of the district. The survey was completed in 1935, and its findings were reported to the H.A.P.C. in 1936. The report indicated that the district was rich in water power, and that the development of such power would be a profitable investment. The H.A.P.C. was organized in 1934, and its first action was to conduct a survey of the water resources of the district. The survey was completed in 1935, and its findings were reported to the H.A.P.C. in 1936. The report indicated that the district was rich in water power, and that the development of such power would be a profitable investment. The H.A.P.C. was organized in 1934, and its first action was to conduct a survey of the water resources of the district. The survey was completed in 1935, and its findings were reported to the H.A.P.C. in 1936. The report indicated that the district was rich in water power, and that the development of such power would be a profitable investment.

1-1
limits. It is understood that from 13,500 to 30,000 h.p. will be required for the purpose of this Company.

Negotiations have been in progress, from time to time, since the summer of 1918, over the terms of a contract for the supply of power by the A.S.P.C. for the purposes of this Company.

At the time negotiations for a power contract were in progress, other points relative to the Company's rights were in question as between the Government and the Company, but these points and the anomalous situation arising out of the controversy have been settled upon by the Agreement which your Government concluded with the Company in February of this year.

This leaves the Company still a prospective customer of the Hydro-Electric Power Commission and its officials have satisfied your Commission that the Company is ready and willing to enter into a contract on reasonable terms to take an amount of power of from 13,500 to 30,000 h.p. If such a contract can be agreed upon, this Commission is assured that the Company will proceed immediately with the construction of its plant and have it in operation considerably earlier than required by its lease.

The undertaking of a contract with the Great Lakes Paper Company would require the immediate installation of at least two more generating units at Wipigon at an estimated cost of \$1,725,000, but the net effect would be to reduce the disproportion between the total capital investment and the total amount of the load and thus reduce the cost of power.

The objections of the Company to the form of contract which it was asked by the Hydro-Electric Power Commission to sign, were generally the following:

1. The contract was too long and complicated.

limited. It is understood that from 15,000 to 20,000 h.p. will

be required for the purpose of this company.

Installations have been in progress, from time to time.

Since the summer of 1916, over the terms of a contract for the
supply of power by the N.E.P.C. for the purposes of this company

of the time required for a power contract was 15

progress, other points relative to the company's rights were
in question as between the Government and the company, and these

points are the subject of a dispute which has not yet been settled.
have been settled upon by the agreement which your Government

concluded with the company in February of this year.

This leaves the company still a prospective customer

of the Government's power commission and its financial state

estimated your Government that the company is ready and willing

to enter into a contract on reasonable terms to take an amount

of power of from 15,000 to 20,000 h.p. It was a contract for

to be agreed upon, this condition is certain that the company will

be able to supply the power required for the project and that

it is in operation considerably earlier than required by the Government

understanding of a contract with the Government

your company would require the immediate installation of 25

least two more generating units at Nigamon at an estimated cost

of \$1,750,000, but the net effect would be to reduce the dis-

proportion between the total capital investment and the total

amount of the load and thus reduce the cost of power.

The objection of the company to the terms of contract

was that it was asked by the Hydro-Electric Power Commission to

sign, were generally the following:

1. The price to be paid for power was excessive.
2. The amount and terms of the security to be given by the Company for the performance of the contract.
3. The provisions respecting interruptions in the delivery and use of power by conditions beyond the control of the parties were not made mutually applicable to the Commission and the Company.
4. The contract was not mutually enforceable, that is to say it could be enforced against the Company but not against the Hydro-Electric Power Commission without a fiat.

As to the first point, the parties appear to have been substantially in agreement on the basis of a price of \$17.50 per horsepower, and your Commission have no reason to believe that this price might not yet be favorably considered by the Company.

As to the amount and terms of the guarantee, we understand that this could be satisfactorily adjusted. The Company had, in fact, reached an adjustment of that feature in its negotiations with the Government. Similarly as to the third objection, an understanding appears to have been arrived at with the Government, under which the matter would be covered by some form of insurance.

The fourth objection was a more serious one. It was urged by the Company that the financial institutions, by whom the working capital was to be supplied, could not reconcile themselves to a form of contract that was not mutually enforceable through the Courts, in case of disagreement arising between the contracting parties, or in the event of either party failing to live up to its obligations. The financial institutions maintained that the contract should be readily enforceable

1. The price to be paid for power was excessive.

2. The amount and terms of the security to be given by the company for the performance of the contract.

3. The provision regarding transportation in the contract was not to be subject to the discretion of the company but was to be subject to the discretion of the Government.

4. The provision regarding the right of the Government to cancel the contract without a trial is to say it would be enforced against the company but not against the Hydro-Electric Power Commission without a trial.

5. The provision regarding the right of the Government to cancel the contract without a trial is to say it would be enforced against the company but not against the Hydro-Electric Power Commission without a trial.

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9. The provision regarding the right of the Government to cancel the contract without a trial is to say it would be enforced against the company but not against the Hydro-Electric Power Commission without a trial.

10. The provision regarding the right of the Government to cancel the contract without a trial is to say it would be enforced against the company but not against the Hydro-Electric Power Commission without a trial.

without the necessity of obtaining a "Fiat," which might not be granted by the Government.

From information conveyed to your Commissioners, we understand that a certain Company has recently acquired a small pulp mill located in Port Arthur. We are given to understand that this Company will establish further extensions to its present facilities if it can obtain suitable pulpwood limits. It appears that the initial requirements in respect of these extensions would be 10,000 h.p. and that the plant would later on be doubled in capacity, resulting in 20,000 h.p. being required. Negotiations for a power contract with this Company might readily fail on account of those features considered undesirable by the financial institutions associated with the Great Lakes Paper Company.

EQUALITY OF POWER RATES

At various junctures, from the time the arrangements with the Hydro-Electric Power Commission to furnish power to the two Cities were first discussed, the Commission has given the Cities reason to believe that the rates would be the same in the two Cities. Definite assurances to this effect were, in fact, given at different times, yet at several stages of the negotiations with the Great Lakes Paper Company the Hydro-Electric Power Commission took the position that the price for power at 110,000 volts could not be as low in Port William as in Port Arthur, and that if the Great Lakes Company should locate at Port William or at the "Mission" site, immediately west of Port William, it would have to pay an additional charge

without the necessity of obtaining a "title," which might not

be obtained at the present time.

The following statement is from the Commission:

"The Commission has been informed that the proposed extension of the

plant will be located in Port Arthur. It was given to understand

that this Company will consider further extensions to the

present facilities if it is found that the extension is

it appears that the initial requirements in respect of these

extensions would be 10,000 h.p. and that the plant would later

on be doubled in capacity, resulting in 20,000 h.p. being

required. Negotiations for a power contract with this Company

might readily fall on account of these features considered

undesirable by the financial institutions associated with the

proposed extension of the plant.

THE PROPOSED EXTENSION

At present, the plant is situated on the river bank at

with the Hydro-Electric Power Commission to furnish power to

the two cities were first discussed. The Commission has given

the Commission to believe that the plant would be the same

in the two cities. The Commission has been informed that

in fact, there is a difference of opinion as to the extent of the

negotiations with the Government. The Commission has been

informed that the Commission has been informed that the

power of the plant would be as low as 10,000 h.p. as

in Port Arthur, and that if the Great Lakes Company should

be able to obtain a "title" at the "title" office, immediately

that of Port William, it would have to pay an additional charge

for the transmission of the power from the last pole of the Commission's 110,000-volt line in Port Arthur.

CONCLUSION

Before voicing any opinion, or making any suggestions as to methods that might be adopted, or recommendations as to any action that might be initiated to best meet the existing conditions, your Commissioners have carefully studied the local conditions of the territory served by the Thunder Bay System.

It is practically certain that nearly all the power developed by this System will be used within or near the Cities of Port Arthur and Port William. These two Cities, located at the head of the lakes, are, to all practical purposes, one community, with common industrial outlook and both dependent on similar resources for their future growth and prosperity. In short, their business and social structures are almost identical and it is only a unique condition of circumstance that they are two separate municipalities instead of one.

Whatever justice there may be in favor of a differential rate as between any two cities, both of which obtain their power from the same sources, your Commissioners are of the opinion that in the cases of Port William and Port Arthur there should be the same rate for power at any voltage. The two Cities are too heavily involved and too evenly balanced, in their relation to the Nipigon Development, to permit of any difference in rate which might militate against their co-operation in working out this problem which is complicated, and will not admit of delay in its solution.

For the purpose of the power from the last sale of the
Commissioner's office in New York.

as to whether such might be adopted, or amendments to the existing law might be initiated to meet the existing conditions of the territory served by the Thunder Bay

It is practically certain that nearly all the power developed by this system will be used within or near the office of the power company. There are offices, located at the head of the lake, etc., so all practical purposes, one company, with some industrial system and one company, with some industrial and some agricultural and forestry.

Therefore, freedom there may be in favor of a differential rate as between any two cities, both of which obtain their power from the same source, your Honorship are of the opinion that in the cases of Port William and Port Arthur there should be the same rate for both of them. The two cities are too heavily involved and too evenly balanced, in their interests to the public, to be treated differently or any difference is only with slight difference in their co-operation in working out this problem which is

common to both. *and also it is up to us and will have a share in*

It is stated that the Hydro Development on the Nipigon was started in order to supply power for the needs of these municipalities and the anticipated industrial requirements of the district in general. It is the industrial growth of these two cities that only can provide an adequate market for the power that can be developed. Your Commissioners feel, therefore, that the business success of the Cameron Falls plant is almost entirely dependent on the activity of these two cities in getting industries to locate within, or near, their borders. *and also in getting the power to*

For the purpose of working out these problems, we believe it to be desirable, to the point of being necessary, that there should be a Joint Municipal Commission, having jurisdiction over the administration of the System for the two cities, and perhaps for the whole of the Thunder Bay System. This Commission should be given a large measure of control over the policies to be pursued in finding a market for the power which the Nipigon plant is capable of producing,-- subject always to the controlling voice of the Government or the Hydro-Electric Power Commission in matters affecting the financial or other interests of the Province at large. Such a Joint Commission could, we believe, with the advice of the Hydro-Electric Power Commission, work out the problems of the System more readily than any body less intimately in touch with those problems.

It is believed that if the authority to negotiate and conclude contracts for power is vested in the Municipalities, they will use every effort to see that their con-

It is noted that the Hydro Development on the
Niggon was started in order to supply power for the needs of
these municipalities and the anticipated industrial develop-
ment in the district is expected. It is the industrial growth
in these two cities that only can provide an adequate market
for the power that can be developed. Your Commissioner feels
therefore, that the Council's interest in the Niggon Falls plant
is almost entirely dependent on the activity of these two
cities in attracting industries to locate within, or near, their
borders.

For the purpose of working out these problems, we
propose to be established at the point of origin, namely,
first, there should be a Joint Municipal Commission, having
jurisdiction over the administration of the Niggon Falls
the district, and power for the whole of the Niggon Falls
district. This Commission should be given a large measure of
control over the policies to be pursued in finding a market
for the power which the Niggon plant is capable of producing,
subject always to the controlling voice of the Government or
the Hydro-Electric Power Commission in matters affecting the
general or other interests of the Province at large. Such
a Joint Commission could, we believe, with the advice of the
Hydro-Electric Power Commission, work out the problems of the
district more readily than any body has hitherto in touch
with these problems.

It is believed that if the authority to negotiate
and produce electricity for sale is vested in the

contracted obligations are lived up to and will take a much more active interest in the problems, relative to later conditions and other matters, than they would if they had no actual contractual relations with the companies operating within their borders. The various questions to be covered in a contract bearing on strikes, enforceability of contract and so forth, are matters of interest to the municipality, and we are of the opinion that in authorizing these Cities to enter into contracts direct, such questions would be dealt with in a manner best suited to meet local conditions.

In order to definitely define the area in which power rates shall be the same, it is the opinion of your Commissioners that a zone should be established. It is thought that this zone should include the territory comprising each City and also such other areas, lying adjacent to the boundaries of the Cities as may be considered suitable for future industrial development. In this connection we believe that the H. E. F. C. should undertake to deliver power to a place, the location of which is equally advantageous to both Cities. In this particular respect we would support the proposal made by both Cities that the power be delivered at a sub-station located on the boundary between the two Municipalities.

As pointed out, it is largely to the pulp and paper industry that Port Arthur and Port William must look for industrial progress. Consequently not only must the price of power be such as will attract these interests but the pulpwood resources of the country must be available for use. If it is the Government's intention to open up any further pulpwood

resources the Government should consider the interests of the pulp and paper industry.

erected obligations are lived up to and will take a much more active interest in the problem, relative to labor conditions and other matters, than they would if they had no actual connection with the situation. The National Association of Manufacturers, bearing on strikes, enforceability of contracts and so forth, the opinion that in authorizing these cities to enter into agreements with the National Association of Manufacturers, the Government is taking a step which is a definite step in the direction of a more active interest in the problem.

In order to definitely define the area in which power rates shall be the same, it is the opinion of your Committee that a zone should be established. It is thought that this zone should include the territory comprising the area in which the power is produced, and the area in which the power is consumed. The Committee is of the opinion that the area in which the power is produced and consumed should be the same. In this connection we believe that the N. E. C. should undertake to deliver power to a place, the location of which is equally advantageous to both cities. In this particular respect we would suggest the proposal made by the N. E. C. that the power be delivered to a central station in the city of New York, and the power be delivered to the city of New York. As pointed out, it is largely to the help and power of the city of New York that the power is delivered. Consequently not only must the price of power be such as will attract those industries but the price of power must be such as will be available to the city of New York. The Government's intention to open up any further negotiations

limits in this area, we would recommend that the intentions of the Government, in this respect, be made known at once so that those desiring to operate may have an early opportunity of submitting their proposals. The establishment of additional pulp mills in this area would materially assist in disposing of large blocks of power.

The above suggestions are made with a view to placing the System, as soon as possible, on the soundest financial basis possible under existing circumstances, and to reduce the deficit, as quickly as possible, to a vanishing point. The Power Commission Act provides that a municipality may be relieved of the sinking fund charges for the first five (5) years, but "the amounts required from each corporation on sinking fund account shall be payable during the then next ensuing thirty years." The Act, as it stands, is intended to provide for the ordinary case of a thirty-year sinking fund period and is apparently not sufficient to justify an extension of the forty-year period, which was granted as a special concession to Port Arthur and Port William. The reason given for making the period forty years was that Port William would not be in a position to take power, under its contract, until 1926 and that Port Arthur had not completed the sinking fund period in respect of its original contract with the Commission. It is questionable whether, under the law and theory, as at present followed by the Hydro-Electric Power Commission, it would be considered proper to grant an extension of the sinking fund period beyond the date fixed by the present agreement and extend the period to, say, 45 years. It is questionable whether

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of the Government, in this respect, be made known at once so
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period and is apparently not sufficient to justify an extension
to the thirty-year period, which was provided for in the original
agreement to Port Arthur and Port William. The reason given
for making the period forty years was that Port William would
not be in a position to make power, under its contract, until
1930 and that Port Arthur had not completed the sinking fund
period in respect of its original contract with the Commission.
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present followed by the Hydro-Electric Power Commission, it
would be considered proper to grant an extension of the sinking
fund period beyond the date fixed by the present agreement and
extend the period to, say, 45 years. It is questionable whether

it would not be as well to face the deficits at once. Various contentions were put forward as to why the municipalities should not be called upon to meet this portion of the deficit. The discussion of these reasons would be lengthy and is, perhaps, unnecessary for the purpose of this report. After hearing all the arguments your Commission recommend that the amounts of any deficit incurred by fixing the price of power at a salable figure should be carried in a Suspense Account against the System and that the consideration of the question whether any part of this deficit or any part of the capital cost should be written off by the Province be deferred. The actual payment of this deficit will, in the meantime, have to be met by the Province in the annual appropriations.

It may be found that the necessary authority to make effective plans, looking to the relief of the existing conditions, is lacking. In this event, we recommend that the Government take the necessary steps to have the requisite powers granted by Orders-in-Council, or by legislation, as the necessities of the case may direct.

All of which is respectfully submitted,

Signed:

Chairman,

Commissioner,

Commissioner,

Commissioner,

Commissioner.

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tained should not be called upon to meet this portion of
the deficit. The discussion of these reasons would be
lengthy and is, perhaps, unnecessary for the purpose of this
report. After hearing all the arguments your Commission
recommends that the amount of any deficit incurred by fixing
the price of power at a suitable figure should be carried in
a separate account against the system and that the con-
sideration of the question whether any part of this deficit
or any part of the capital cost should be written off by the
Province be deferred. The actual payment of this deficit will
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All of which is respectfully submitted,

Signed: _____
Chairman,
Commissioner,
Commissioner,
Commissioner,
Commissioner,
Commissioner.

